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A MONTHLY JOURNAL OF MEDICINE AND SURGERY

CHARLES P. WAGAR, M. D., Managing Editor.

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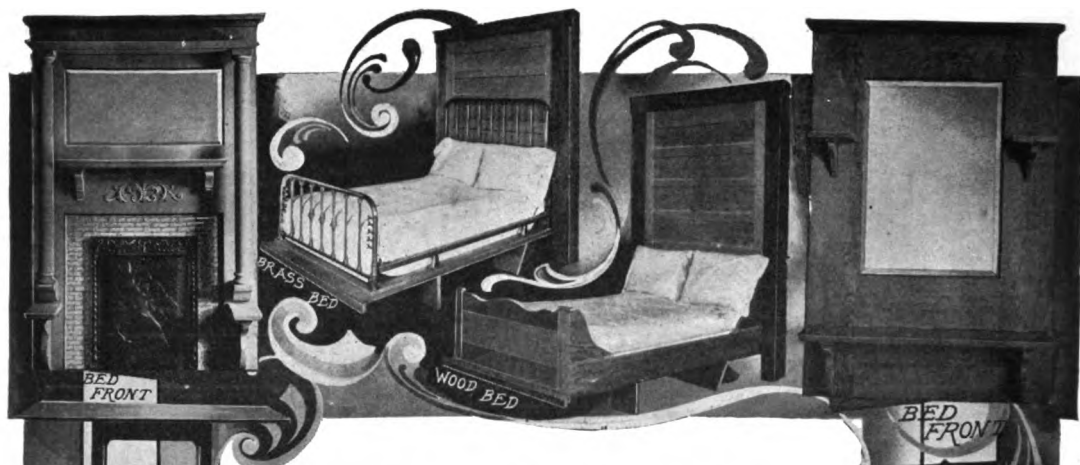
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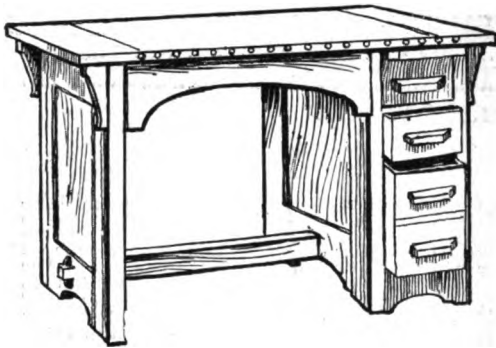


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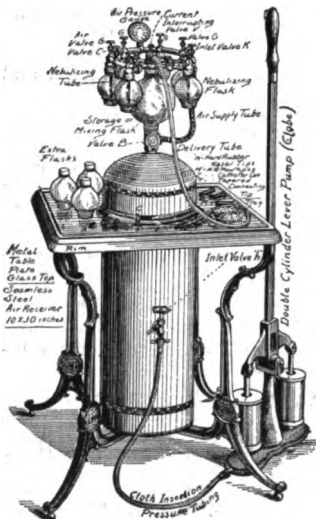


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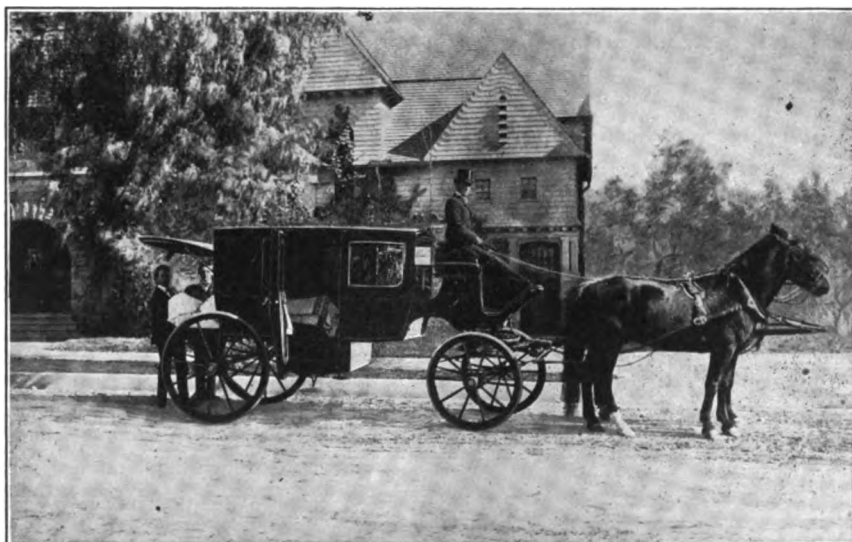
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THE MORPHINE HABIT.

BY J. S. LEACHMAN, M. D.,
Higley, Okla.

Editor Medical Summary:

I have been deeply interested in the morphine habit and its treatment for a long time, and have tried many of the much-advertised, so-called home cures on the poor, unfortunate individuals that have come to me imploring for help. Reluctantly, though through sympathy, I would take charge of those cases, but when I used one of the above-mentioned remedies I would soon have on my hands almost a raving maniac, and then be compelled to fall back on my own resources, which usually were the bromides (Peacock's preferred), hyoscyamus, in some form, with quinine and strychnine as a tonic. In order to relax the locked secretions, I generally give calomel and podophyllin, with hot baths of some kind. Here, by the way, allow me to say that the Betz apparatus would come in most admirably. I have often longed to try it, but thus far I have been compelled to forego its use.

I have brushed along for years, trying this and that remedy, generally "holding the fort until the enemy retreated," as it were, or keeping the morphine away until Nature stepped in and did the work. However, I became so discouraged in the treatment of these cases, that I had almost concluded not to accept another one. But, some six months ago, my attention was called to Mandragorine Tablets, for hypodermic or internal use, prepared by the James Alkaloidal Co., of St. Louis, Mo., and after careful perusal of their literature on the subject, I concluded to give this method a trial in the next case that presented itself to me for treatment.

I did not have to wait long before a young man, about twenty-eight years of age, called, asking me to take charge of his case. He was of a rather dark complexion, nervous temperament, intelligent and energetic. His usual weight had been about 145 pounds, but now he was bloated and weighed 180 pounds. Extremely nervous, no appetite, and could not fall asleep until about four

o'clock in the morning. At times he was very talkative; other times very sullen, and desirous of being left alone, and on several occasions was seen slipping a razor into his pocket, and denied each time (to his father) that he had anything of the kind about his person. When made to give it up he got very cross about it. He was using about fifteen grains of morphine per day, hypodermically. Greatest amount used in one day was twenty-six grains. He says he first began using opium about eight years ago, in California, in one of those Chinese smoking houses, and got so he smoked as high as 125 "coasters" per day. On leaving there he applied to a physician, who said he would cure him, and he put him on morphine.

I gave him calomel, bismuth and sulphocarbolate of zinc for his bowels, and the bromides to quiet his nerves, but I found in his case the tincture of cannabis indica, five drops to a dose, answered best, and gradually reduced the morphine to an average of five grains daily. I had him constantly watched, both day and night, but I could see no improvement in his mind—if anything, he seemed to be more rattled, and as he began to clamor for treatment by injection (hypodermic), I secured a case of the Mandragorine Tablets, and started in using them, and, strange to say, I had no more trouble with him, as he began to sleep well, eat well and quiet down in every way.

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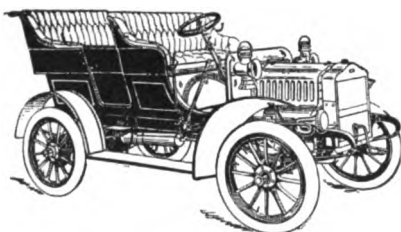
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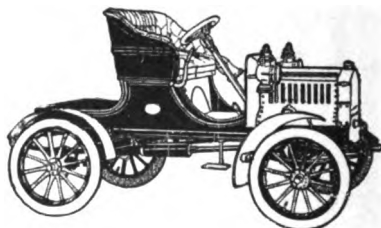
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ORIGINAL ARTICLES.

BLOOD PRESSURE

A lecture delivered by THEODORE G. DAVIS, Ph. G., M. D., Los Angeles, Cal.
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Physiologists use this term to signify the average or mean blood-pressure as shown by the manometer. Blood pressure, as a rule, is the term used to express the maximum systolic arterial tension, but the diastolic or minimum arterial pressure should also be taken into consideration. Beside which we as physicians, in order to understand normal and pathological physiological processes, should have a knowledge of venous and capillary blood pressure. Blood pressure depends upon the following factors. The force of the hearts contraction. The amount of blood thrown into the arterial system at each systole. The elasticity of the vessels walls. The total amount of blood in circulation and the resistance offered to the escape of blood through the small arteries and capillaries. In a healthy man the variations in blood pressure from the average, is very slight, but in disease, observations have shown them to be considerable. We should therefore take into consideration, not only the mean, but the maximum and minimum blood pressure, and the mean or "pulse-tension" as well. Pulse tension may be defined as the amount of force which is necessary to prevent the transmission of the pulse-wave to the periphery. The minimum tension being the power or force necessary to compress an artery during cardiac diastole, the maximum being that necessary to be exerted to compress the artery during systole. As the manner of compressing the artery varies as well as the individual's perceptions, so do the conclusions at which he may arrive. Hence the necessity for instruments of precision, such as the

sphygmomanometer. Of these the most simple and satisfactory is that of Cook. Janeway's possesses the advantage of exhibiting the diastolic pressure as well; but for this purpose Stanton's is probably better, though more cumbersome and expensive. For hospital and laboratory work, Erlanger's apparatus is best; with it we can obtain and preserve graphically our findings. These are all modifications of the Riva-Rocci apparatus.

To use the instrument, the arm is encircled by the cuff, and adjusted. The cuff is then inflated, by means of the rubber bulb which causes it to encircle the arm snugly. The pressure is then increased until the radial pulse disappears, or after its disappearance, reappears. This should be repeated, and the point at which it disappears noted upon the scale—as m. m. of Mercury. The value of this determination we will consider later. Within the last few years the usefulness of blood-pressure determinations have been generally recognized especially in America. The estimation of the two pressures, systolic and diastolic, being the only means by which we may determine the mean arterial pressure, which has considerable diagnostic value in cases of aortic insufficiency and of hypertension, where the systolic elevation is much more marked than the diastolic, and is influenced by respiration and by exercise: as well as by various physiological processes, digestion, ect. Blood pressure falls at the time of menstruation. This fall occurs with the appearance of the flow, and is probably due to lessening of pressure in the distended

vascular area of the genitals, which as you are aware, is controlled by fibers of the nervus erigens coming through the pelvic plexus, from the first and second sacro-spinal nerves. These changes in blood pressure affect the organism as a whole, and are responsible for many of the disturbances associated with menstruation and the procreative functions. Similar phenomena have been observed in man and it is probable that there is in men, as well as in women, a rhythmical reproductive cycle, and associated vasomotor and nervous manifestations.

Direct determinations of blood pressure in the brachial and femoral arteries, have shown it to vary between 100 m. m. and 160 m. m. Hg. in the normal individual; the pressure diminishing extremely slowly with the distance from the heart. Respiration does not affect it greatly unless it be rapid and deep, or the arterial tension low. The changes which correspond to the Traube-Hering waves are doubtless due to changes in the tonus of the vasomotor and respiratory centers.

Atmospheric pressure influences blood-pressure but slightly; while muscular work causes it to be double its usual amount; increasing it from 115 to 235 m. m., or from 120 to 242 m. m. While 160 m. m. is accepted as normal for the healthy individual of adult age, 145 m. m. is probably nearer correct. Janeway says he has never seen a pressure above 180 m. m. in a normal individual and seldom above 160 m. m.

The blood pressure varies with age, and the average blood pressure may be stated to be as follows: at fifty, 140 to 160 m.m., and even in the aged, 70 to 80 years, not over 180 m. m. In children of two years, 75 to 90 m. m., increasing with age until at from 9 to 14 years it may average 110 m. m. The diastolic pressure in the normal adult is from 25 to 40 m. m. below the systolic pressure. In excitable nervous people the variations will be considerably greater. The pressure varies during the day and with posture, usually not more than 5 to 15 m. m. It is undoubtedly lower during the first hours

of sleep, gradually rising toward the waking hours. Janeway tells us to "regard with suspicion any pressure above 135 to 150 m. m. in a young person,—145 to 170 m. m. in an older one." Above 145 to 160 m. m. in middle age is pathological, as is 160 to 180 m. m. after middle age. In healthy children I would place the lower systolic limit at 80 m. m. and in healthy adults at 100 m. m. In adults the variations between systolic and diastolic pressures may be 25 to 40 m. m. In the aged it may reach 50 m. m. It is usually lower in women than in men. When it is possible to estimate only one of the pressures, the systolic is the better guide.

When we turn to the enormous variations in blood pressure seen under pathological conditions, the smaller physiological fluctuations appear less conspicuous. The agonal pressure seen just before death, and recorded by Hensen, of 40 m. m., and the extreme tension recorded by Cook and Briggs in a case of cerebral hemorrhage, represent the extremes so far observed. The more common readings in high tension cases lie in the neighborhood of 220 to 260 or even 285 m. m. as we have seen in a case of chronic nephritis. The upper limit of blood pressure is set by the reserve force of the heart. Such enormous pressures as 350 to 400 m. m. are temporary manifestations of cerebral compression. Janeway, however, reports a number of cases in which the pressure was between 250 and 300 m. m. at every examination made during more than a year. Individual differences in the anatomical and functional state of the cardiac muscle determine the extent, in each case to which the arterial pressure may use. Exact data concerning the minimal pressure at which the capillary arterial circulation can maintain life is scarce. Hensen places it at 75m. m.; the blood pressure in the capillaries being about 40 m. m. Hg. Cook and Briggs gave the chart of a case of traumatic or surgical shock with pressure below 50 m. m. for a brief period, which re-

covered. Kapsammer gives 60 m. m. as the lowest pressure compatible with life, but cites **one case** in which a woman lived 13 hours after a severe fall, with the tonometer reading 40 m. m. In advanced phthisis, John found the pressure 35 to 40 m. m., for several days before death. For *diastolic pressure* it is difficult to give any figures, Janeway has never found it above 180 to 200 m. m. Hg., but he has never examined cases of cerebral compression. Blood pressure is low in wasting diseases and in cachectic states, as advanced phthisis, carcinoma of the stomach and general paralysis of the insane. Conditions in which the life processes are carried on at the lowest possible level; evidenced by the small empty pulse during life and the bloodlessness of the tissues and "brown atrophy" of the heart found after death. Various infections and toxemias, especially typhoid fever, are accompanied by low tension; and blood pressure falls rapidly as death approaches, in the condition known as "agonal hypotension." Hemorrhage leads to a rapid reduction in the blood pressure. Certain drugs as the nitrites lessen blood pressure by their effect upon the walls of the vessels, but their effects are evanescent and transient. Other drugs lower blood pressure by their action upon the vasomotor center, which they eventually paralyze. Chloroform and its co-geners are the most important drugs in this group. Low arterial tension occurs early in chloroform anesthesia, and needs careful watching. There are two conditions, one medical, the other surgical, in which hypotension is more than a symptom. It is the essential manifestation, of the serious disorder of function which lies back of the clinical picture, and the chief source of danger to life.

These two conditions are collapse and shock. Collapse with great fall in blood pressure is seen in acute diseases at the height of the infection, and when severe a fatal issue rapidly results. Collapse also follows upon severe hemorrhage and appears under the

same circumstances as produce shock; especially prolonged operations involving manipulation of the intestines or sensory nerve trunks. In acute infections the heart, for a time, may be able to combat the vascular paresis, but sooner or later the heart muscle weakens and vasomotor paralysis occurs, first of the respiration, then of the heart.

Fever of itself is insufficient to alter mean blood pressure, but may and probably does change the relation of systolic and diastolic pressure to one another. Blood pressure alone does not tell us of the heart's ability to carry on the circulation. When the individual is at rest, the heart may be able to carry on the circulation, normally; but be inadequate to meet the demands of active life. Again, with a low blood pressure the heart may be exerting all of its reserve force, or only its ordinary expenditure of force; no measurements can tell us which. Blood pressure measurements, however, guide us to a recognition of the necessity for attacking the circulation through the vasomotor system, when this is at fault, and to protect the heart from secondary damage and needless or harmful stimulation.

NEPHRITIS.

In acute nephritis a rise of 50 m. m. Hg. frequently occurs in the first 48 hours of the attack, and may aid us in making a diagnosis. This rise in pressure is most frequently seen in scarlet fever; where we have at first an anemia of the kidney, increasing with the pyrexia, interfering with and producing changes in the glomerular epithelium; we have scanty urine, albumin, blood, etc. Changes in other tissue cells are not so evident as in some other infectious diseases as diphtheria and typhoid fever where injury to the muscle cells make hypotension more common. We must not forget that many of the cases described as "acute nephritis" are in reality an exacerbation of a chronic process, where a high blood pressure already existed.

CHRONIC NEPHRITIS.

It is difficult, if not impossible

to make an absolute, specific diagnosis of the various types of the so-called parenchymatous or diffuse nephritis, during life. In no other form is arterial pressure so constantly high as in the chronic interstitial variety. In the chronic hemorrhagic form, normal or sub-normal readings are frequent. In amyloid kidney, the muscular tissue of the walls of the vessels and of the heart is so replaced by the amyloid material that they dilate or cease to contract, and fail to influence pressure to any great extent. In typical chronic parenchymatous, or diffuse nephritis, the high tension is as marked as in contracted kidney. Indeed in chronic parenchymatous nephritis, whether it be due to disease of the lungs or heart with impeded circulation, or as the result of pressure upon the renal veins by tumors or by the pregnant uterus, or by ascitic fluid, we have sooner or later an increase of interstitial tissue, from small round-celled infiltration, between the tubules. Here and there the Malpighian tufts become sclerosed. The blood vessels are usually thickened, and changes, which may be more or less granular, fatty or hyaline occur in the epithelium of the tubules. This is indeed a *diffuse* nephritis, and is a form of nephritis common in those who consume large quantities of alcoholic liquors, especially if of low alcoholic strength. Many of these cases are complicated with arteriosclerosis, when the kidneys are more involved and the blood pressure is higher.

CHRONIC INTERSTITIAL NEPHRITIS.

The clinical picture of the "contracted kidney" of the Germans, "the small granular kidney" of the English writers, is in most cases so clear-cut as to make the diagnosis during life positive and secure. *It is a disease of the kidneys, the arteries, and the heart combined.* Not only is there over-growth of fibrous tissue between the renal tubules and in the glomeruli but in the walls of the small arteries—a true fibrosis, of which we speak as arteriosclerosis. Permanently high blood pressure

results, higher than is seen in any other condition, if we except intra-cranial hemorrhage. Diagnostically, hypertension is of the first importance, in connection with the contracted kidney. It is one of the most constant and easily detected evidences of the disease. Enlargement of the heart is difficult to make out and if the patient is obese baffles the expert. The urinary findings are not constant, albumin and casts are frequently absent, and the quantity and specific gravity are often normal. A single examination may often fail to reveal anything abnormal, and while not a pathognomonic sign, a high blood pressure of 200 m.m. or more, must put the examiner on his guard and the diagnosis of contracted kidney be disposed of by repeated examinations before it is abandoned. Lead poisoning produces similar symptoms and conditions, and the pathological findings, appear to be identical.

UREMIA, ETC.

Most of the observations upon blood pressure have reference to chronic "uremic" intoxication, and we may conveniently, *at present*, place "puerperal eclampsia" and the "toxemia of pregnancy" in this class; for their manifestations, such as headache, vomiting and disturbances of consciousness, run closely parallel, with the arterial pressure. Vomiting frequently occurring when the blood pressure approaches 300 m.m. of Hg. Tonic and clonic spasms occur with a pressure of 315 to 330 m.m. and general convulsions at 340 to 350 m.m. If uremic coma should supervene, *collapse with fatal hypotension occurs.* Laquer, called attention to in this important prognostic use of the sphygmomanometer. Blood pressure estimates are of some value in myocardial disease, but give us little information of value, in valvular lesions. They may guide us in the administration of drugs, such as the nitrites, which act as vasodilators, or adrenalin, caffeine, digitalis, etc., which produce vaso-constriction. At least they may keep us from using them when they would do harm.

A FEW POINTS IN THE SURGERY AND ANATOMY OF THE HAND

By JAMES HARVEY SEYMOUR, M. D.
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In casting about for a subject worthy of the consideration of the Academy of Medicine it seemed to me that a no more profitable hour could be spent than reviewing a few points, anatomical and surgical, relative to injuries of the hand.

I will wager that, with most of us, a careful study of this important member has been relegated to the back ground, and its importance nearly lost sight of in the mad whirl for new methods and perfected technique of the many major operations of today. We are more interested in noting advances in gall bladder, stomach and intestinal surgery, appendectomies, prostatesctomies, etc., etc., and yet no greater opportunity offers for the exhibition of technical skill, keen judgement, and mechanical ingenuity than in the surgery of the hand. The danger is, that in our eagerness to obtain a grasp upon, what we are pleased to term the greater potentialities in surgery, we will lose sight of the hardly less important matters which concern us every day.

I shall not offer any oppologies, therefore, for rehearsing to you to-night, the things, with which, I wot, you have all been familiar but which you and I, I believe, can most profitably turn aside to reconsider.

So with your indulgence we will take up a few of the surgical and anatomical points necessary to intelligently treat injuries of the hand.

I say anatomical, because in no region of the body is a comprehensive knowledge of anatomy more essential to creditable surgical work than that of the hand. To the working-man, to whom most of these injuries come, the hand is his stock in trade, without it, or if irretrievably damaged, he becomes a burden to himself, to society or the state. Because of their frequency and the fact that they usually fall into the hands of the general practitioner are reasons sufficient why they should be more generally discussed.

The hand is a complicated piece of mechanism, "The minister of reason and wisdom," adjusted for the most delicate and varied uses. Its muscular supply is little short of marvelous as any medical student can truthfully vouch, and so high is the degree of co-ordination of these muscles as exhibited in a skilled musician, artist, or handicraftman, and so extraordinary the tactile sensibility, that the hand was supposed, in olden times to contain a force within itself, capable, not only of intelligent action, but of transmission of such action beyond the body, a notion which prevails even to this day among the credulous and superstitions, as exhibited by those claiming to heal by the mere laying on of hands and the marvelous revelations of the up-to-date palmist.

The arterial and nerve supply are calculated to meet all the requirements of this facile organ.

A good working knowledge of the anatomical relationship of bone, muscle, artery and nerve then, is a *sine qua non* to surgical interference, without this knowledge, he is a brave man or reckless, who would attempt to cope with serious injuries or surgical diseases of the hand.

Let us review for a moment, some of the surgical landmarks as indicated by surface markings.

In the palm, for instance, we see the flexor furrows an ulnar and radial so-called, the former extending from the head of the 5th metacarpal bone to the web between the index and middle fingers; the latter, or radial, extends from the head of the metacarpal bone of the index finger to the hypothenar eminence; the value of this line is considerable; where it crosses the 4th metacarpal it marks the superficial palmar arch, which may sometimes be seen to pulsate at this point.

When the fingers are flexed these furrows form a deep fissure, which marks the position of the heads of the

metacarpal bones; the upper limits of the synovial sheaths of the flexor tendons of the index middle and ring fingers and the transverse metacarpal ligament and a little below it the bifurcation of the digital arteries into their terminal branches.

On the palmar surfaces of the fingers, there are three transverse creases, those between the phalanges indication the location of the joints, the first furrow being midway between the metacarpophalangeal and the first interphalangeal joints.

The position of the superficial palmar arch is also determined by drawing a line from the lower border of the abducted thumb transversely across the palm; this line will mark the lowest point to which the arch extends. The deep palmar arch lies one-half inch to the proximal side of this.

The interosseous arteries are found in the interosseous spaces, thus making it desirable in opening abscesses of the hand, to make the incision over the metacarpal bone rather than the inter-spaces if we would avoid these arteries. All three rows of knuckles are formed by the distal ends of the bones, an important bit of knowledge when amputating at these joints. To enter the joint the incision should be made a little below the angle of the knuckle.

Upon flexing the hand the most prominent tendon in the wrist is the palmaris longus; lying to the radial side of this tendon is the tendon of the flexor carpi radialis; behind and between these two tendons lies the median nerve. The position of the radial and ulnar arteries in the arm are more easily determined, as their pulsation can be felt. The deflection of the radial beneath the extensor tendons of the thumb, reaching the palm through the first metacarpal interspace, to form the deep palmar arch, should be remembered, the pulsation of the artery can be easily felt in "la tabatiere anatomique," or the anatomist's snuff-box, so called because, when snuff taking was fashionable, it was customary to carry the snuff to the nose in this little depression. This ar-

tery should be guarded in this position in amputation of the thumb at its carpo-metacarpal articulation.

The thick facial band extending across the wrist in front confines the flexor tendons as they pass into the hand.

There are two synovial sacs surrounding the flexor tendons; one investing the superficial and deep flexors and extending into the palm, the other investing the tendons of the flexor longus pollicis and extending to its point of insertion into the last phalanx of the thumb.

The synovial sheath of the little finger is almost always continuous with the inner or so-called ulnar sac.

The synovial sheaths of the tendons of the index, middle and ring fingers extend only to the heads of the metacarpal bones and do not communicate with the great palmar sac, which latter extends about an inch into the forearm.

The significance of the arrangement of these synovial sacs is immediately apparent.

Inflammation of the thumb or little finger may, by extension, involve the great carpal synovial sac extending into the arm, whereas, purulent collection in the sheaths of the tendons of the index, middle and ring fingers would extend no farther than the heads of the metacarpal bones.

To diverge for a moment. The central portion of the hand between the thenar and hypothenar eminences can be deepened by the contraction of the muscles on either side.

This depression is called by the old anatomists "poculum Diogenis," or Diogenes cup.

It seems that this old cynic philosopher, seeing a shepherd stoop and drink from the palm of his hand, vowed to henceforth use this as the simplest utensil, instead of the rude wooden cup which he had heretofore deemed the acme of simplicity.

From its exposed position the hand is particularly liable to injuries of all sorts.

In this day of extensive machinery plants, mechanical traumatism causing wounds, contusions, sprains, fractures and dislocations, frequently of the severest character, are common occurrences; fingers are severed or torn off or the hand crushed and lacerated into a shapeless mass; and while the treatment should always be guided by the circumstances, it should be remembered that the hand possesses great powers of repair owing to the excellency of its blood supply. Do not be in too great a hurry to amputate; neither remove a single bit of tissue more than necessary in a member of such incalculable value; conservatism applies more particularly however to injuries of the palm, as 'tis here that the powers of ultimate recovery to a greater or less degree of usefulness are more potent. The cases are very exceptional which call for primary amputation. Jacobson gives the following conditions justifying primary amputation:

(1). Where one or more fingers are mangled and pulped out of all shape or recognition.

(2). Where all the tendons are torn through, especially if this has happened at more than one place, as in the fingers and in the palm also, and where, with these injuries, there is much opening of the joints as well as fracture of the bones and ripping off of the skin.

(3). Where the fingers are extensively split longitudinally.

(4). Where a hand is flayed, owing to its having been caught between rollers which hold but do not crush; here as the patient draws back, the skin is stripped off like a glove to the wrist.

If, in addition, bones are crushed, the palmar thecae opened; amputation, leaving part of one finger if the thumb is intact; or through the wrist joint should be performed at once.

Skin grafting should be resorted to if necessary to save the thumb and index fingers. The thumb is of inestimable value and every effort should be made to save it, in whole or part, and the rule to amputate any of the remaining

fingers at the metacarpo-phalangeal articulation, rather than in the continuity of the first phalanx or at the first inter-phalangeal joint should be excepted, where it is necessary to provide an opposing surface for the thumb.

In the case of the index finger the proximal phalanx should always be left, if possible, as it will make possible the holding of a pen.

In case of palmar hemorrhage, the arteries should be sought for and tied, in situ, after first compressing the radial and ulnar or the brachial. If the surgeon fails to secure the arteries by ligation or if the wound be punctured, compression will succeed if properly carried out. The fingers should be bandaged to prevent oedematous swelling.

Over the radial and ulnar arteries are placed two short sections of a pencil wrapped in gauze; sterilized gauze pads are placed over the bleeding point and the bandage carried up the arm midway between wrist and elbow. These compresses should not be removed for four or five days; or on the other hand, the brachial artery may be tied at once. The greatest care should be used to unite the severed tendons and nerves, for only thus can the usefulness of the fingers be preserved. Neglect to do this makes necessary, frequently, a secondary operation in order to pick up and unite the retracted tendons (a feat not always possible) or amputation of the useless digit. Brilliant results are accomplished in tendon lengthening and tendon anastomosis. Paul, of England, successfully joined the tendon of the flexor longus pollicis with the index tendon of the flexor profundus. A boy, age seven, falling with a cup in his hand had sustained a severe cut across the ball of the right thumb. There was no power over the last joint and consequently no power of holding anything, e. g., a pen, in the usual way. An incision over the flexor longus revealed the distal end of the tendon in good condition and firmly attached to the scar. This end having been isolated, the central end was sought for, but though the incision was prolonged to an inch above

the annular ligament, no trace of it could be found. It was quite useless to search higher, since, if found, the tendon would be too short to bring down and attach to the distal end. Under these circumstances Mr. Paul decided to endeavor to obtain a union between the term terminal end of the flexor longus pollicis and the side of the index tendon of the flexor profundus; a step, if necessary, would give the patient a power of flexing the thumb and forefinger together and thus holding articles between them. The free end of the thumb tendon was cut into a wedge shape, and inserted into a notch made in the side of the index tendon, where it was retained by two or three very fine sutures. The wound healed by first intention, and a year later it was found that not only had the boy the combined power of grasp hoped for, but that under training by a skilled pianist, he was obtaining independent movement of the thumb and forefinger. The fact

that, while the boy had only one muscle between the two digits, he could yet flex them separately, was entirely due to training of the extensors. Thus, if told to bend the thumb alone, he would fix the forefinger by its extensor and then flex the thumb, or the reverse.

The necessity for carrying out to the utmost the strictest aseptic and antiseptic measures, in injuries of the hand is particularly urged; our success will depend upon it. Abscesses should be freely opened and drained at the earliest moment, through and through drains in palmar infection, employed; widespread disorganization can only thus, frequently be averted. Time will not permit a detailed consideration of treatment in injuries of the hand. Your surgical knowledge and instinct will guide you in meeting the indications, but remember the two greatest surgical axioms: 1st, secure and maintain, if possible, asepsis; 2nd, infection being present, provide for free drainage.

COMMENTS ON RONTGENOTHERAPY

By ALBERT SOILAND, M. D., Los Angeles, Cal.

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Read at the fourth regular meeting of the Medical Symposium Society, Tuesday, January 15, 1907.

It is refreshing to note the qualitative changes taking place in our Rontgen Ray literature of the present day.

Much less hysterics are indulged in, and more real scientific research work reported by leaders in our profession. Leaving out the diagnostic value of the X-Ray which has been lately standardized to a high degree through Fluoroscopy and Photography, our attention is drawn to the Therapeutical aspect.

In every civilized country investigators are at work perfecting means and instruments which will lead to an exact regulation of dosage, as this is by far the most important problem to be solved.

Of all the devices so far placed in the hands of the Rontgenologist none are wholly satisfactory.

So many factors enter into the stand-

ardization of the X-Ray for therapeutic purposes that no single measuring instrument as yet devised, has been found reliable.

Kienbocks quantimeter, newly perfected, gives promise of reliable assistance in X-Ray dosage.

Kienbock calls his dose unit "X" and graduates it down to half the scale of Holzknecht's unit "H." Thus an exposure representing an intensity of one unit "H" would correspond to two units "X."

It is useless to attempt any accurate mensuration with meters placed either in the primary or secondary circuit. The X-Ray energy can only be computed after emanating from the tube. Nearly all operators can judge to a relatively accurate degree how much energy a certain tube gives off in action in their own laboratory. In other words, they become proficient in the use of the tools that are daily employed.

It is quite remarkable how few X-Ray accidents really occur, at the present time, in view of the powerful coil generators that are made use of, particularly when these coils are energized through Wehnelt or electrolytic breaks, such as deliver an intense and vigorous current for X-Ray photography. Apparatus of this type should not be used ordinarily for therapeutic purposes, except when attempting to combat a deep seated malignant condition, and then very carefully at infrequent intervals. As a routine measure and for ordinary superficial work, where the rays are at their best, the static machine, small coil or transformer should be used.

Another hopeful sign in the literature is the conservatism displayed by the writers. The field of usefulness of the Ray has narrowed down to reasonable limits. It is no longer claimed that the Rontgen method will cure every disease in the medical category, from A to Z. It is unquestioned that the skin and its diseases are the most profitable field for X-Ray successes. Upon the skin the brunt of the attack falls, and here the reaction is therefore strongest. We need not be surprised that the hard, dry skin should show inflammatory X-Ray changes, even before the soft mucous surfaces do. Herein lies the solution to the problem; the X-Ray is essentially an electrical discharge; the skin is a non-conductor, therefore it strongly resists the entrance of the electrical rays and we get a prompt reaction, which is necessary to effect healing. On the other hand, when the rays are directed over a mucous surface there is little or no resistance offered. The rays penetrate to a deeper point and we do not get a surface reaction so easily. This explains why it is easier to destroy an Epithelioma situated on the forehead, than one on the inner surface of the cheek.

A great deal is said in the journals about idiosyncrasy or individual susceptibility to Ray reaction. I do not believe, however, that the difference lies so much in the particular nature of the

skin; but I am morally certain that the explanation can be found in the ever varying activity of the different tubes used. Of course some people react much more quickly than others when the same tube is used, yet I have repeatedly demonstrated to my own satisfaction, that the tubes vary in degree much more than the skin.

A number of practitioners keep an X-Ray machine in their office for diagnostic work. Their outfit contains, as a rule, one tube. This tube is used a number of times for Fluoroscopic examinations or perhaps to make a few plate exposures. From time to time the tube is in action for demonstrative purposes, before admiring patients or friends. Before long the doctor has a case of Epithelioma that he decides to treat. He hooks up his tube and bombards the lesion 10 or 15 minutes every other day. After a months time the Epithelioma is probably worse than before treatment was begun. The doctor becomes disgusted, says the X-Ray are no good and the patient scatters the news abroad.

Now, what is the explanation of the doctors failure? He had a good machine and a good tube. He had taken satisfactory plates, examined many broken bones; had allowed his lady patients to see the coins contained in the purse through the handbag and to see the shadow of the rings on their fingers. He is, therefore, at loss to account for failure to influence the afore-said Epithelioma.

The explanation is simple. His machine and tube are probably both good, but that particular tube is not at all suited for superficial treatment work. It has been used and abused for other different purposes and no competent Rontgenologist would expect results in the case given. If the doctor had bought a brand new tube of proper vacuum and treated carefully the patient quoted, it is safe to assume that a complete cure would have followed.

Rontgenology is so big and complex that we could carry this discussion on indefinitely. As the years go on, how-

ever, we are gradually learning to discard the bad and retain the good. Meanwhile, the conscientious physician

is glad the X-Rays are here and will do what he can to separate them from ignorance and prejudice.

ETIOLOGY OF CONSUMPTION

By HENRY HERBERT, M. D.

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With the discovery of Koch's tubercle bacillus in 1881, the ways and modes of infection in consumption has by no means, as yet been settled. To illustrate the importance of this question, I may mention that in the International Congress for tuberculosis, held at Hague, September, 1906, that subject was the main topic of discussion. To classify the various opinions upon that question in general, I may state that most of the authors agree to infection alone as regards the causation of tuberculosis; whereas, another group believes in the infection but with a proviso, i. e., hereditary disposition.

The adherents of the infection theory are not united in their opinions as regard to the entrance and to the avenues of the tubercle bacillus into the human body. Apart from the transmission of the tubercle bacillus by skin, and placenta,—ways that are of little importance owing to the rarity of occurrence—the main avenues are to be considered, the respiratory passages and the alimentary canal. As the most radical exponents of the aerogenic infection, Cornet, Koch and Flügge may be considered. On the other side there are Von Behring and Calmet and their followers, who maintain the enterogenic or hematogenic theory of infection.

The pathogenesis may be characterized briefly in the following way: The tubercle bacillus, it has been proven, is able to pass normal skin, normal mucus membrane and even gut, without leaving any trace of entrance. It settles in the proximate glands, which become caseous. Each gland might be a new focus from where the infection radiates.

As a rule, the lymph glands are considered as a protecting filter against the tubercle bacilli. They weaken them or even kill them and it takes considerable

time until the caseous process in the glands takes place whereby the glands become destroyed. These facts show that the lymph glands are not a sure protection and even the newest experiments show that tubercle bacilli pass easily into the mesenteric glands only to be deposited in some more regionary glands. It has been further experimentally proven that the introduction of Methylen-Blue into the stomach or into the intestines, causes, in a short time, colorization of the bronchial glands. These experiments, more than any, indicate the probable ways and avenues of an enterogenic infection.

It is, on the other hand, proven that the deposition of tubercle bacilli on the mucosa of the upper air-passages, bronchi or bronchioli is followed by the infection of the cervical or bronchial glands.

Von Behring claims that it is the milk of tubercular cows, which infects the infantile body and the disease remains latent for a long period, only to break out in due time, a theory which is probably justly attacked by many authors.

Aufrecht and Babes accuse the crypts of the tonsils as being responsible for the absorption of the tubercle bacilli.

As an interpreter of the infection with limitation, stands F. Hueppe, who says that the infection in phthisis is influenced rather by hereditary predisposition than by any other means or mode of infection. Phthisis of adults depends upon the disposition of the lungs. He considers the specific predisposition of organs transmissible by heredity. E. Fink (Ther. Monatschrift, Feb. 1904) claims that tubercle bacilli are not an originating, but only an accompanying factor of phthisis.

No doubt there exists more than a superficial connection between heredity

and infection, because, granting even that the tubercle bacillus has to be recognized as an important factor in the etiology of the disease, the explanation even of the most radical adherents of the infection theory is not sufficient to show why phthisis pulmonalis appears *constantly* in families in ascending or descending line. The percentage of tuberculosis among collaterals is much larger than among married people, although in the latter there is much more chance of infection by contact. There are also certain hereditary peculiarities, as described by Turban and others, in phthisis which cannot be explained by the infection theory, and therefore its adherents leave for such cases a "loop-hole" open by invoking the obscure term of "hereditary disposition."

In support of the hereditary theory, I may say among other arguments, that consumption is less frequent among married people than among collaterals. A very interesting feature in support of this theory is the fact that affection appears in the same family mostly on the same side. Turban has seen in 22 families, 86.9%, this peculiar location of the disease among parents and children, among brothers and sisters. I have observed the same phenomenon in 27 families. I have further observed, that there exists a distinct similarity between a consumptive and his or her consumptive parent or child.

A third phenomenon is the fact that

consumptives of one family become diseased and die, about the same age.

The newest investigations refer the term of so-called hereditary disposition to a pathological and anatomical deficiency in the lungs which is hereditary. A tubercular individual who possesses a diseased lung which eventually is not developed or its function disturbed, diminished or entirely abolished, is able to generate children during this period with a functional weakness of one or the other lung.

There exists, so to say, a longevity of individuals as well as a longevity of their special organs, and applying this theory to the lungs, we may assume that there is a limited vitality and function of the lung characterized by a premature senility, decay or physiological atrophy in the offsprings of consumptives. If in the stage of atrophy, an individual is subject to a hematogenic or aerogenic infection, then the bacillus finds a suitable soil in the atrophying cells and proliferates there rather than in the healthy tissue.

Of great interest are the recent experiments on animals by Lortat-Jacob and G. Vitry (La Presse Medical No. 4, 1906) which seems to strengthen this theory; those authors have found by cutting through the vagus or recurrens, that the lung on the same side was quickly attacked by tuberculosis; in all their similar experiments on animals the enervated lung became tubercular.

Timeliness of interest, aside from any other condition, lends especial importance to the announcement of the early publication of *Foods and Their Adulterations*, by Harvey W. Wiley, M. D., to be immediately followed by a companion volume, *Beverages and Their Adulterations*. Dr. Wiley is Chief Chemist to the United States Department of Agriculture, at Washington, and his wide researches in the interests

of purity in food commodities give anything he might write on the subject an authoritativeness that is unquestioned. The fact that the new National Food and Drugs Law becomes effective after January 1st, and that public interest in it is now at white heat, will no doubt result in quite a demand for both volumes. The books will be generously illustrated from original photographs and drawings.

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(AND LOS ANGELES MEDICAL JOURNAL.)

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EDITORIAL

THE NEWER PATHOLOGY AND SURGICAL TREATMENT OF GASTRIC DISEASE

The pathology of gastric disease has had to be revised many times in the past ten years and with this change of view have come essential changes in the treatment.

Internal medicine has not achieved the results in this field its labors have entitled it to. The knowledge we possess of pathology, both anatomic and physiologic, is due largely to the discoveries made through various surgical measures adopted to relieve gastric conditions.

There is scarcely any other field in surgery which has received so large attention within the last few years. Physiologists also have devoted much study to the functions of the stomach, and to their conclusions we owe much of the recent knowledge which has illuminated the subject. Notable among the workers in this experimental physiology have been Pawlow, Starling, Cannon and Cushing.

The laws which govern digestion; the influence of the mental state on the conversion of food; the relation of traumatism to the production of ulcer; the influences which control pyloric contraction and the structure, activity and physiologic functions of the pyloric end of the stomach,—wherein most of the pathologic changes occur,—all of these problems have been placed on a basis of exact observation. Those observations conducted on the lower animals have had a relative value. But the observations made on the human stomach by the operating surgeon have had a very definite value in the confirmation or rejection of the data derived from

animal study, and have not only given a tremendous impetus to precise achievements in the cure of gastric lesions, but have served to eliminate much of the obsolete and purely theoretic inferences drawn from previous clinical study.

The foremost minds in surgery have been enthusiastically engaged in this great work. Amongst the earliest were Langenbeck and Billroth, to be followed by the pupils of the latter, Kocher and Czerny. We owe much to the splendid work of these two masters. Their pupils, von Mikulicz and Petersen, may be regarded as giving the best expression, while living and working, of the newer ideas in gastric surgery on the Continent. In fact, they were the authors of some of the enduring principles which continue to govern in the surgery of the stomach. In England, Robson and his distinguished pupil, Moynihan have lent even greater lustre to this subject, by their brilliant contributions to the pathology and surgical technique. In America the work of Mayo, Murphy, Richardson and Cushing has been a worthy complement to that in the foreign clinics, and they represent the composite of the best and newest doctrine which obtains amongst us.

The pathology and surgical treatment of diseases of the stomach have been largely rewritten in the last year, and they have never before been on such a certain footing.

A. S. L.

STUDENTS' SMOKER

BY ONE OF THE STUDENTS WHO SMOKED.

On the evening of January 8, 1907, the students of the College of Physi-

cians and Surgeons, gave their third annual smoker to the faculty of that institution. The affair was entertaining in the extreme, and members of the faculty expressed their delight in the college spirit shown.

Anders Petersen, '09, acting as toastmaster, said in part, "Members of the faculty, while we have been listening to you continuously for several months past we are still desirous of hearing more from some of you tonight. not on subjects pertinent to medical education, but on a different line of talk, probably telling us what good boys we are, and we are irreverent enough to believe that such a subject is just as important as any and a great deal more interesting."

Dr. Chas. W. Bryson, dean of the faculty, responded in behalf of the faculty, "Young gentlemen," he said, "we are proud of the college spirit shown by you and we are delighted to be in attendance at so unique an entertainment, viz., a smoker given by students to faculty.

I am glad to note that the faculty have evinced so lively an interest in your affairs. In the college where I graduated we were in great luck if we got so much as a casual nod on the street from a member of the august body, the faculty, Gentlemen, I am pleased to note the class friendship that exists between students and teacher.

"Boys, I am proud of you, not only because you are a lot of genuine good fellows, but also because you mean business. We have no room for loafers in this school. We expect you either to get in line or get out. We expect you to help us keep up the high standard of this college. Do you know, gentlemen, that there is not a single graduate

of this college who has taken the State Board of Examination, who has not in his possession a license to practice in California? We are prescribing a strong course of study, which means high scholarship, and any man who thoroughly masters that course by diligent appreciation, need have no fear of the State Board. Disillusion yourself, if you happen to be in such a state of mind that the State Board is a ferocious goblin standing ready to cut off your head the minute you are handed a diploma. All they demand is scholarship and in so doing they are protecting you as well as the public from hordes of men with inferior training, who would swarm into our beautiful state the minute the bars were let down."

Mr. H. V. Bogue, '08, gave an impersonation, which convulsed the audience with laughter and put every one in an exhilarated state to enjoy the sustenance for the inner man, which J. P. Vye, '09, who acted as caterer, was by this time serving.

Dr. Sylvester Gwaltney, Prof. Tropical Medicine, delighted the students with one of his original talks, and was followed by Mr. Chas. E. Schwartz, '08 with the story of his first obstetrical experience. Mr. Schwartz has a style of narration peculiarly his own and his charming way of telling a joke on himself takes an audience entirely by storm.

Dr. James P. Booth, Prof. State Medicine and Hygiene, who is fondly referred to as "the grand old man," made a captivating address in which, with the usual gallantry that characterizes the Southern gentleman, he complimented everybody on everything, thereby strengthening the esteem in which he is held by the students. In

every medical college there is one member of the faculty to whom graduates in after years attribute all their epigrams, and it is reasonably certain that Dr. Booth will bear that distinction in the P. & S.

If there is anything more characteristic of the South than fine horses and pretty women, it certainly is her silver-tongued sons. Truly the profession of Law failed to matriculate one brilliant member when Mr. Edward Jones, '07, decided to enter the medical profession. Mr. Jones has ideas of his own, is not afraid to express them and knows how to make himself thoroughly understood. Like his illustrious Southern brother "Pitchfork" Ben Tillman, who once announced on the floor of the Senate that he was "just making a few remarks on the general cussedness of the situation," Mr. Jones is not afraid to remind a man of his faults as well as his virtues and he does it in such a charming way that you stick out your hand and say, "Much obliged old man."

Drs. J. H. Seymour, president board of Trustees, and Jas. T. Fisher, prof. nervous diseases, made short addresses followed by Mr. Chas. E. Holgate, '08, and Lawrence Lindsly, '07, in behalf of their respective classes.

C.

JACKSONIAN EPILEPSY

The mere mention of the term Jacksonian Epilepsy conveys to the minds of most of us, a tumor or focal irritation of the motor cortex.

Such at least is the teaching of our text books, which can only be regarded as a partial truth.

Many are the exceptions to the rule. Do we not attribute too much importance and diagnostic value to the occurrences of a mono on hemispasm

affecting certain muscles or groups of muscles as being the result of some focal lesion in the motor area?

This may or may not be of value in estimating the position and nature of an intracranial growth.

Toxic states, as noted in Nephritis, Diabetis, may produce local spasms of frequent recurrence and other symptoms which simulate organic disturbances in the cerebral cortex.

These seizures are often observed with no disturbances of consciousness, the patient even being able to describe his feelings at the time.

The convulsive twitchings seen occasionally in cerebral hemorrhage may reasonably be attributed to the cortical irritation or instability of sub-cortical cells, produced by the damage done to nerve structures in close proximity. These are noted, especially in children after cerebral thrombosis, showing small punctate haemorrhages and oedema.

This condition may easily produce cortical discharge and a mono spasm of one or more extremities.

Irritation far removed from the motor area as in the cerebellum, may cause convulsive movements of the arm or face. From any serious insult to the brain tissue there may result, a radiation of nervous impulses to other centres far removed.

The spasm may be considered an invasion symptom; it is not, for instance, an uncommon phenomena to note the invasion of the motor area from a tumor starting from the frontal lobes, extending backward and thus occasioning irritation of the motor fibres to the hand, leg or face.

The mono spasm here often precedes a slowly advancing hemiplegia.

Jacksonian Epilepsy as a result of vascular changes in arterio sclerosis is one not frequently met with and has many symptoms suggestive of brain tumor, such as headache, word deafness, blindness, asteriognosis, hemianopsia asphsia and even hemiplegia.

Severe headache choked disc and vomiting are extremely rare.

Hysteria must never be forgotten as being a factor in the production of Jacksonian Epilepsy—so called Hystero-Epilepsy are only too common—but always present certain stigmata which are pathogmonic of that disease.

J. T. F.

EPILEPSY IN CALIFORNIA

In another column will be found an open letter relating to a subject heretofore practically neglected in this State,—viz., the proper care of Epileptics.

The treatment of no other class of sufferers is so unsatisfactory to both doctor and patient. In addition the patient is under the ban of an unwritten law which prevents him from association with his equals, from exercising his natural talents, and even from gaining a fair livelihood. He is an outcast indeed.

To such unfortunates the colonies established in various of our states have furnished homes, employment, and incentive to intellectual and moral advancement.

In our own state no public provision is made except in County Poor Institutions, County Hospitals, State Asylums and Homes for the Feeble Minded. When it is considered that many Epileptics are persons of high mentality and fine sensibilities such conditions appear intolerable.

If the committee from whom this let-

ter comes is able to agitate the question until California does justice to this forsaken class of her Citizens, its duty will have been well done.

If any of our readers can comply with the committee's request to furnish information concerning Epileptics we urge them to do so at once.

C. P. W.

PLASTER OF PARIS AND HOW TO USE IT, by MARTIN W. WARE, M. D., Adjunct Attending Surgeon, Mount Sinai Hospital; Surgeon to the Good Samaritan Dispensary; Instructor in Surgery, N. Y. Post Graduate Medical School. 12mo.; 72 Illustrations, about 100 pages. SURGERY PUB. CO., 92 William St., N. Y. City, Cloth \$1.00.

This is one of the most useful books ever presented, not only on account of the general demand for the information and instructions upon the subject which this book so explicitly, practically and comprehensively covers, but because this knowledge was not previously available except from such a vast experience as enjoyed by Dr. Ware, or, in part,, by reference to many books on allied subjects.

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Editor of the California Medical & Surgical Reporter, Los Angeles, Cal,

Dear sir:—

As you are aware, great advances have been made in recent years in the care and treatment of epileptics. It has been found that their welfare and that of the community is best promoted by providing special institutions for them on the colony or village plan. There are a number of such colonies in Europe, and at least fifteen of our own states have made or are making colony provision for indigent and semi-dependent epileptics. By means of colony life the conditions of these persons may be improved and their capacity for self-support increased.

There being in California no special provision for epileptics, representative citizens of Los Angeles met on October 29, 1906, to consider the needs of this

unfortunate class. At this meeting a committee was appointed to investigate and report upon the condition of epileptics throughout the state as a step toward bettering their condition. This committee is now engaged in gathering data concerning the number of epileptics in this state, both in and out of institutions. All medical practitioners are urged to send to this committee the names or initials of any epileptics whom they may know, together with whatever information may seem to be of value concerning them.

As chairman of this committee I am writing to you to enlist your co-operation in furthering the matter. If you will be so kind as to give space to this communication I shall be greatly indebted to you.

Very truly yours,

ROSS MOORE, M. D.

314 Pac. Mut. Bldg., L. A., Jan. 8, 1907.

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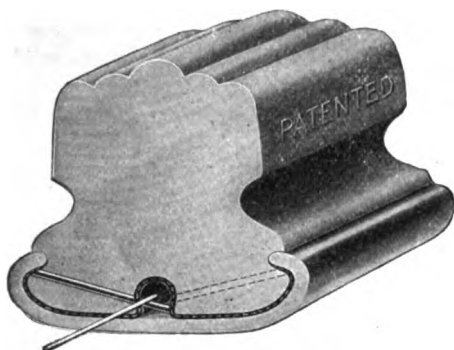
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Pleurisy

Apply over and well beyond the boundaries of the inflammation.

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SPOKANE, Wash., Jan.—Eighty candidates, including three Japanese, graduates of the college of Tokio, presented themselves before the state board of medical examiners at the hall in Spokane recently for permission to practise medicine in Washington. The sessions continued three days. The board is composed of these officers: President, Dr. J. B. Eagleson, Seattle; secretary, Dr. K. B. Tanner, Seattle; Dr. A. E. Stuht, Colfax; Dr. G. W. Overmyer, South Bend; Dr. A. J. Wright, Wilbur; Dr. E. D. Olmstead, Spokane; Dr. C. S. Kalb, Spokane; Dr. P. B. Swearingen, Tacoma.

Lachlan Patterson, a miner, who sustained a broken back and was paralyzed from the waist down in falling head-long into a mine shaft at Wallace, Ida., five years ago, continues to excite the interest of medical and surgical practitioners, who declare the case to be without a parallel in their annals. Patterson is able to move about in a wheel chair. He is of cheerful disposition and passes his time in reading and playing the guitar for other patients in Providence hospital at Wallace.

Mrs. Nettie Morell, Mrs. Jennie Russell and Hanson W. Russel, operating as the Dr. Waters Medical Company and the Inland Drug company, were arrested by Deputy United States Marshal George Davenport and held for the federal grand jury at the April session. They are charged with sending circulars and medicine through the mails advocating medical compounds designed for unlawful purposes. Inspector Fullinwider says other arrests will follow.

The Central Washington Medical Association has been organized at Wenatchee, west of Spokane, with the following officers: President, C. Gil-

christ of Wenatchee; vice-president, George W. Hoxsey of Leavenworth; secretary, William McCoy of Wenatchee; treasurer, F. E. Culp of Wenatchee; board of censors, Dr. Mitchell of Chelan, and Dr. Saunders and Dr. King of Wenatchee.

Since Governor Mead has recognized the need of a state sanitarium and recommended its establishment in his message to the legislature physicians in the eastern part of Washington are making an effort to have it located either in Spokane or Stevens county. Dr. W. F. Morrison, county physician, voices the sentiments of his brethren in these words:

"The Spokane country has the best northern climate in the country. There are no extremes of heat or cold. The altitude is just about right, being neither too high nor too low. People can live out of doors many months without the slightest inconvenience, while if they start in the fall in order to acclimate themselves they may even remain out-doors all winter. This serves as a prominent factor in the treatment of tuberculosis. The number of cases in the city is small, although the amount of improvement done and cures effected is large."

That the climate of Washington does not preclude recovery of persons suffering from consumption is the claim of the Washington association for the Prevention and Relief of Tuberculosis, recently organized in Spokane, with the officers.

President, C. A. Smith, M. D. Seattle.

Honorary vice-president, Hon. Albert E. Mead, governor of Washington; Rt. Rev. Frederick W. Keator, bishop of Olympia; Judge Thomas, Burke, Seattle.

Vice-presidents, F. H. Luce, M. D.,

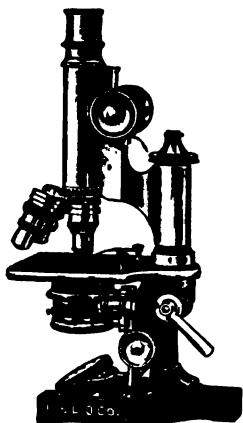
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Sharples, W. A. Shannon, W. R. M.
Kellogg, Senator S. H. Piles, ex-
governor J. H. McGraw, Judge R. A.
Ballinger, John Schram, of Seattle;
Drs. James R. Yocum, G. S. Hicks, C.
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Pullman, H. W. Howard, Prosser, C. N.
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patrick, Mr. J. J. Donovan of Belling-

ham, Drs. W. S. Durand of Everett,
F. H. Luce, of Davenport, Wilson John-
son of Colfax, C. J. Lynch of North
Yakiwa.

Dr. Kellogg has this to say of the plan
of the work:

"If the Washington association is in-
strumental in influencing public opinion
in several directions, it will not have
been formed in vain. One general error
is the almost universal idea that the cli-
mate of Washington precludes recovery
from tuberculosis if the patients remain
in the state. Nothing could be farther
from the truth. The fact is that sana-
toria for the treatment of tuberculosis
are in existence in every climate in
every part of the world, and the results
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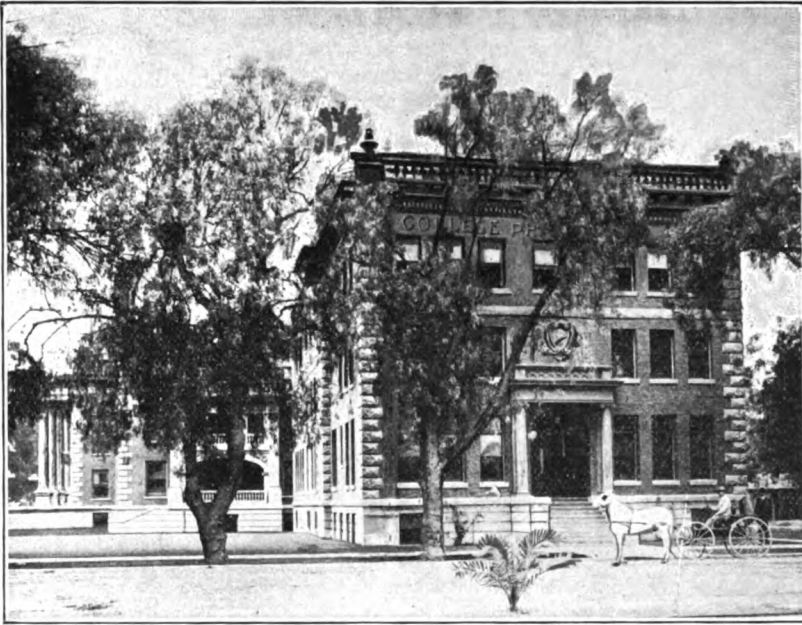
This is what all the members of the Southern California Medical Association remarked of the banquet given by that association of medical men at the ANGELUS last month.

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Surgical Pathology and Treatment of Diseases of the Ear, by Clarence John Blake, M. D., Professor of Otology in Harvard University, and Henry Ottridge Reik, Associate in Ophthalmology and Otology, John Hopkins University. D. Appleton & Company, New York and London; 1906.



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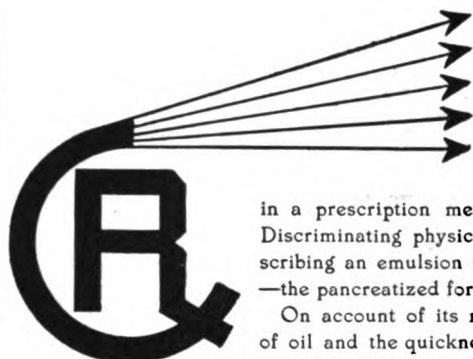
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